Electronic TUBES

12EK6

PENTODE

FOR RF AND IF AMPLIFIER APPLICATIONS IN AUTOMOBILE RECEIVERS

DESCRIPTION AND RATING

The 12EK6 is a miniature pentode intended for use as a radio-frequency or intermediate-frequency amplifier in automobile radio receivers. The tube is specially designed to operate with its plate and screen voltages supplied directly from a 12-volt storage battery.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC	12.6*	Volts
Heater Current	0.19	Amperes
Direct Interelectrode Capacitances†		
Grid-Number 1 to Plate, maximum	0.032	μμf
Input	10	μμf
Output	5.5	μμf

MECHANICAL

Mounting Position—Any

Envelope—T-5½, Glass

Base—E7-1, Miniature Button 7-Pin

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

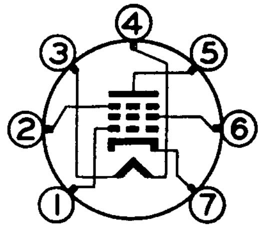
Plate Voltage	16	Volts
Screen Voltage	16	Volts
Positive DC Grid-Number 1 Voltage	0	Volts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	16	Volts
Heater Negative with Respect to Cathode	16	Volts
Grid-Number 1 Circuit Resistance	10	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

BASING DIAGRAM

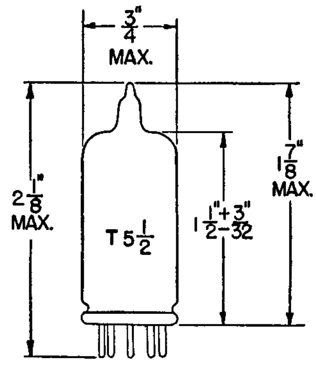


EIA 7BK

TERMINAL CONNECTIONS

Pin 1—Grid Number 1
Pin 2—Grid Number 3 (Suppressor)
Pin 3—Heater
Pin 4—Heater
Pin 5—Plate
Pin 6—Grid Number 2 (Screen)
Pin 7—Cathode

PHYSICAL DIMENSIONS



EIA 5-2

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

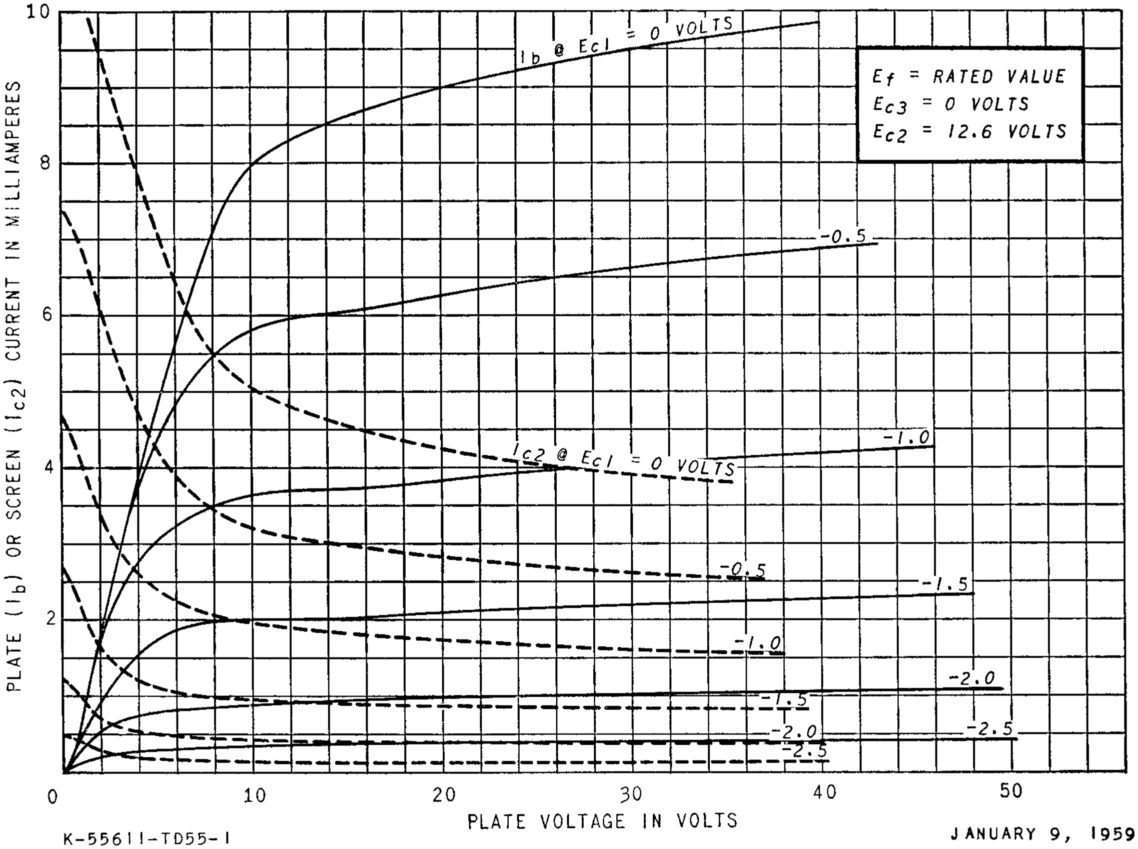
Plate Voltage	12.6	Volts
Suppressor Voltage	0	Volts
Screen Voltage	12.6	Volts
Grid-Number 1 Voltage	‡	Volts
Grid-Number 1 Resistor	2.2	Megohms
Plate Resistance, approximate	40000	Ohms
Transconductance	4200	Micromhos
Plate Current	4.4	Milliamperes
Screen Current	2.0	Milliamperes
Grid-Number 1 Voltage, approximate $I_b = 10$ Microamperes	−4	Volts

* When used in automobile service from a 12-volt source, under no circumstances should the heater voltage be less than 10.0 volts or more than 15.9 volts. These extreme variations in heater voltage may be tolerated for short periods; however, operation at or near these absolute limits in heater voltage necessarily involves sacrifice in performance at low heater voltage and in life expectancy at high heater voltage. Equipment reliability can be significantly increased with improved supply-voltage regulation.

† Without external shield.

‡ Average contact potential developed across 2.2-megohm grid resistor.

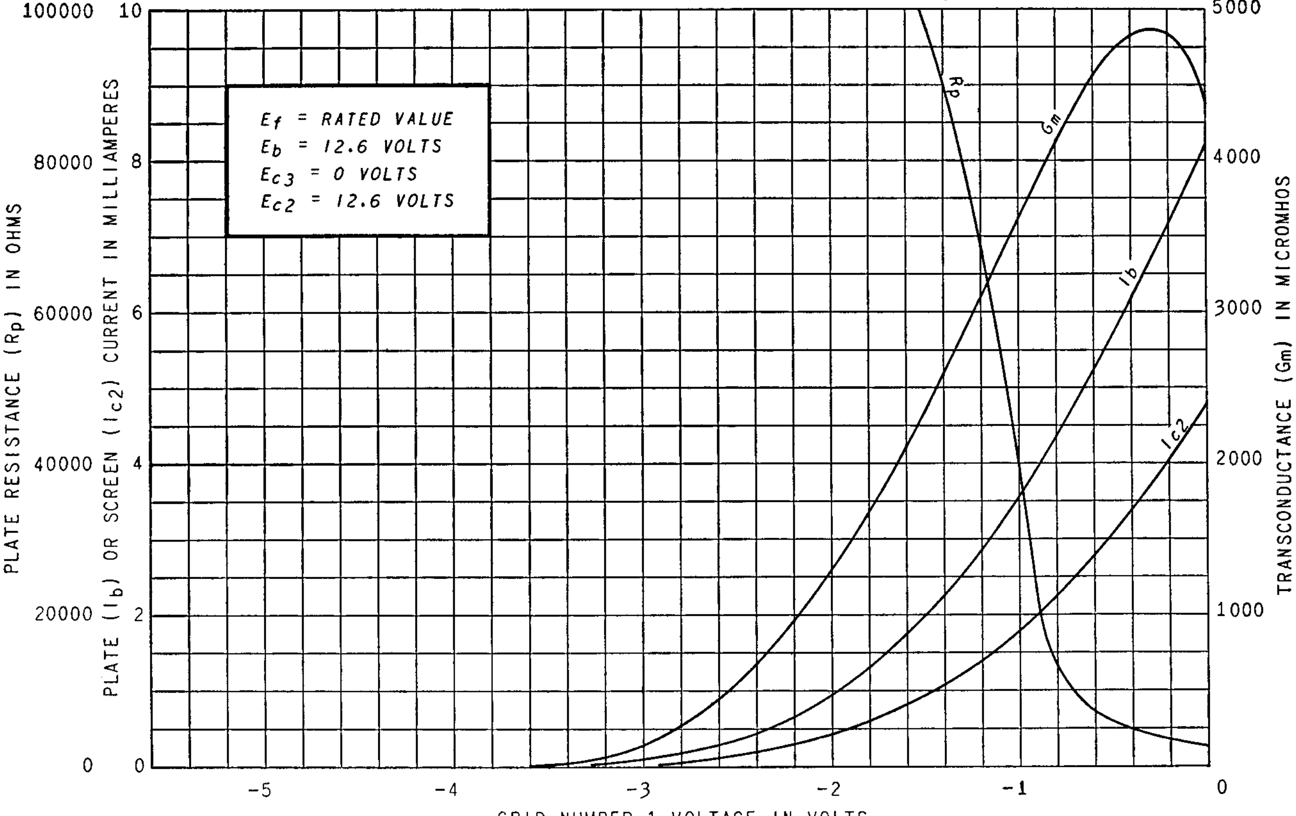
AVERAGE PLATE CHARACTERISTICS



K-55611-TD55-1

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AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD55-2

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